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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/845,361	05/01/2001	Satoru Nakai	401172	2611

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EXAMINER
PHAM, THOMAS K

ART UNIT	PAPER NUMBER
2121	

DATE MAILED: 09/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/845,361	NAKAI ET AL.
	Examiner	Art Unit
	Thomas K Pham	2121

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>*01 May 2001*</u> .

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All b)☐ Some * c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____ .

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *2* .

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: .

Notice to Applicant(s)

1.   Claims 1-15 of U.S. Application 09/845361 filed on 05/01/2001 are presented for examination.

DETAILED ACTION

Priority

2.   Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims 1-2, 4-12 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carlson et al. U.S. Patent no. 5,623,592 (hereinafter Carlson) in view of Takizawa et al. U.S. Patent no. 5,565,748 (hereinafter Takizawa).

Regarding claim 1

Carlson teaches a system comprising: a controller (fig. 1, element 116); a monitor connected with said controller (fig. 1, element 118); at least one object to be controlled, said object connected with said controller (fig. 1, elements 104, 106, 108 and 110); development means for developing a program for said object (col. 7 lines 26-45, "a user first ... the selected instrument."); implementing means for implementing the program developed by said

development means (col. 12 lines 47-51, "computer 102 sends ... the icon sequence.") but does

not specifically teach a software module uniquely assigned to said object; at least one of an icon

procedure for displaying an icon for said object in a display area on said monitor, a description

procedure for describing a control process for said object, and an implementing procedure for

implementing the control process developed for said object. However, Takizawa teaches a

software module that contains information uniquely assigned to the object (abstract).

Furthermore, Carlson teaches how the computer executes the software module which causes the

computer to display a set of icons on the design region to develop various phases of an

experimental control process for the external devices before implementing the experiment by

issuing control signals to the devices to perform an operation specified by the icon sequence

(abstract). Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to incorporate the software module of Takizawa with the system of Carlson

because the Carlson process control would not be possible without the unique software module

that interfaces between the controller and external devices. Furthermore, it would have be

obvious to one of ordinary skill in the art to have at least an icon procedure, a description

procedure and an implementing procedure in order for the computer to display the icons on the

design region, develop the control process with the icons arrangement and implement developed

control process by sending signals to the external devices.

Regarding claim 2

Carlson teaches the system according to claim 1, wherein said object includes at least one device

but does not teach a global unique ID from which development means acquires and identifies the

software module. However, Takizawa teaches a software module that contains information

uniquely identifying the object (abstract). Therefore, it would have been obvious to one of

ordinary skill in the art at the time the invention was made to incorporate the identification

information of Takizawa with the system of Carlson because it would provide for associating

each icon with each of the external devices in order to uniquely and accurately control the whole

simulated process.

Regarding claim 4

Carlson teaches the system according to claim 2, wherein said software module is stored within a

database server connected with said development means through a communication bus so that

said development means acquires said software module from the database server (col. 9 lines 47-

55, "a storage location ... with database icon 248.").

Regarding claim 5

Carlson teaches the system according to claim 2, wherein said development means provides a

display area on the monitor, in which at least one icon is displayed, the icon representing one of

said object connected to said controller and an object to be connected to said controller (col. 7

lines 11-15, "Once a copy ... must be established.").

Regarding claim 6

Carlson teaches the system according to claim 5, wherein the icon procedure displays a plurality

of icons in the display area on said monitor, each icon illustrating current status of said object

(col. 8 lines 31-35, "the controls in ... types of instruments.").

Regarding claim 7

Carlson teaches the system according to claim 5, wherein said development means provides a

development area on said monitor, and a user copies the icon from the display area onto the

development area, thereby developing the program (col. 6 lines 57-64, "To begin the ... design region 206.").

Regarding claim 8

Carlson teaches the system according to claim 7, wherein the user utilizes the description procedure for describing a control process for said object determining operation of said object, thereby developing the program (col. 12 lines 27-41, "The particular icons ... specified instruments.").

Regarding claim 9

Carlson teaches the system according to claim 8, wherein the icon procedure displays a plurality of icons in the display area on said monitor, each icon illustrating operation of said object (col. 12 lines 33-41, "Each icon on ... specified instruments.")

Regarding claim 10

Carlson teaches the system according to claim 7, wherein the user connect s a plurality of the icons with each other to form a flowchart in the development area, thereby developing the program (col. 13 lines 23-30, "Assuming a left-to-right ... operation icon OIC3.").

Regarding claim 11

Carlson teaches the system according to claim 9, wherein said development means displays the icons in the display area, and simulates operation of said object while execution of the program is simulated, whereby the monitor is used for displaying simulation of said object (col. 6 lines 9-16, "a computer may ... a textual indicators.").

Regarding claim 12

Carlson teaches the system according to claim 6, wherein said development means displays the

icons in the display area, illustrates the operation of said object while said implementing means

implements the program, whereby the monitor is used for displaying operation of said object

(col. 12 lines 47-51, "computer 102 sends ... the icon sequence.").

Regarding claim 15

Carlson teaches a storage medium storing a computer program for execution on a system which

comprises a controller (fig. 1, element 116), a monitor connected to said controller (fig. 1,

element 118), at least one object to be controlled, said object being connected to said controller

(fig. 1, elements 104, 106, 108 and 110), development means for developing a program for said

controlled object (col. 7 lines 26-45, "a user first ... the selected instrument."), implementing

means for implementing the program developed by said development means (col. 12 lines 47-51,

"computer 102 sends ... the icon sequence."), in which said development means provides a

display area on the monitor, in which at least one icon is displayed, the icon representing one of

said object connected to said controller and an object to be connected to said controller (col. 7

lines 11-15, "Once a copy ... must be established."); said development means provides a

development area on said monitor (col. 6 lines 21-31, "Referring now to FIG. 2 ... by the user.");

and the icon is copied from the display area onto the development area, thereby developing an

application program (col. 6 lines 36-40, "A user designs ... experimental flow") but does not

teach a software module uniquely assigned to said object, said software module including an

icon procedure for displaying an icon for said object in a display area on said monitor, a

description procedure for describing a control process for said object, and an implementing

procedure for implementing the control process developed for said object, said system including

said object including at least one device, in which said development means acquires and

identifies the software module with the global unique ID. However, Takizawa teaches a software

module that contains information uniquely identifying the object (abstract). Furthermore, Carlson

teaches how the computer executes the software module which causes the computer to display a

set of icons on the design region to develop various phases of an experimental control process for

the external devices before implementing the experiment by issuing control signals to the devices

to perform an operation specified by the icon sequence (abstract). Therefore, it would have been

obvious to one of ordinary skill in the art at the time the invention was made to incorporate the

software module of Takizawa with the system of Carlson because the Carlson process control

would not be possible without the unique software module that interfaces between the controller

and external devices and to provide for associating each icon with each of the external devices in

order to uniquely and accurately control the whole simulated process. Furthermore, it would

have be obvious to one of ordinary skill in the art to have at least an icon procedure, a description

procedure and an implementing procedure in order for the computer to display the icons on the

design region, develop the control process with the icons arrangement and implement developed

control process by sending signals to the external devices.

5. Claims 3 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carlson

in view of Takizawa and further in view of Kodosky et al. U.S. Patent no. 6,173,438 (hereinafter

Kodosky).

Regarding claim 3

Carlson and Takizawa teach the system with a development means acquires the software module

but does not teach the software module is stored within said object so that said development means acquires said software module from said controlled object. However, Kodosky teaches the software module is stored within embedded memory of the embedded system (object) so that said development means acquires said software module from said controlled object (col. 11 lines 34-39, "The embedded memory ... automation function."). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the software module storing technique of Kodosky with the system of Carlson and Takizawa because it would provide for faster accessing of the codes since it had already compiled into machine language.

Regarding claim 13

Carlson and Takizawa teach the system according to claim 7 but does not teach implement means sends messages to and/or receives messages from said object according to the program developed. However, Kodosky teaches the bi-directional interface between the host computer and the embedded system where embedded system returns messages to the host computer according to the program developed (col. 17 lines 1-10, "the embedded system ... the graphical program."). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the bi-directional interface of Kodosky with the system of Carlson and Takizawa because it would provide for communicating bi-directionally between the controller and external devices in order to maximize simulation of the controlling process.

6.   Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Carlson in view of Takizawa and further in view of Kang. U.S. Patent no. 6,279,049.

Regarding claim 14

Carlson and Takizawa teach the system wherein said object is connected to said controller

through an interface but does not teach the interface including at least one of a Plug and Play

function and a Hot Plug function. However, Kang teaches a Universal Serial Bus (USB) and/or

the IEEE1394 interfaces are capable of having hot plug-and-play functions (col. 4 lines 11-15,

"Namely, the USB ... a monitor relevance."). Therefore, it would have been obvious to one of

ordinary skill in the art at the time the invention was made to incorporate the USB or IEEE1394

interface of Kodosky with the system of Carlson and Takizawa because it would provide for

having at least a Hot Plug or Hot Plug and Play functionality in order to aid operator of the

system in the set up process without shut down any part of the system.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner *Thomas Pham*; whose telephone number is (703) 305-7587 and fax number is (703) 746-8874, Monday-Thursday and every other Friday from 7:30AM- 5:00PM EST or contact Supervisor *Mr. Anil Khatri* at *(703) 305-0282*.
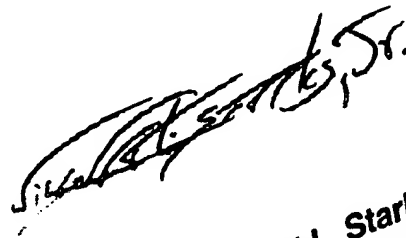
Any response to this office action should be mailed to: **Director of Patents and Trademarks Washington, D.C. 20231**, or **Hand-delivered** responses should be brought to **Crystal Park II, 2121 Crystal Drive Arlington, Virginia, (Receptionist located on the 4th floor)**, or fax to the **official fax number (703) 872- 9306.**

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

Thomas Pham
Patent Examiner

TP

September 11, 2003

Wilbert L. Starks, Jr.
Primary Examiner
Art Unit - 2121